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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/416,270 10/12/99 CHANG

Y 400396/YPLEE

EXAMINER

IM22/0312

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WASHINGTON DC 20005

DOVE, T
ART UNIT

PAPER NUMBER

1745
DATE MAILED:

03/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/416,270

Applicant(s)
Chang et al.

Examiner
Tracy Dove

Group Art Unit
1745



☒ Responsive to communication(s) filed on 12 Oct 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-5 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-5 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on 12 Oct 1999 is ☒ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 10/12/99 have been approved by the Examiner.

Specification

The disclosure is objected to because of the following informalities: on page 2, lines 5-7 the specification states "both surfaces of the electrode sheets are laminated to each collector". Examiner believes the specification should state "the electrode sheets are laminated to both surfaces of each collector".

Appropriate correction is required.

The disclosure is objected to because of the following informalities: on page 2, line 12 the specification states "a 9 layer bi-cell structure" is formed. However, the specification describes only 7 layers (3 for the positive electrode, 3 for the negative electrode and the separator). It is unclear what the other two layers include.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kejha, US 5,750,289.

Kejha teaches a lithium polymer battery including a positive current collector 21 with a plurality of holes 22 therethrough. The current collector is a metallized plastic with the metal being copper (coating 23). The metal supports the current collecting and carrying capabilities of the battery without closing the holes 22. See col. 3, lin 43; col. 3, lin 54-col. 4, lin 7. The collector 21 is coated with layers of cathodic material. See col. 4, lin 11-15. The battery also includes a layer 25 of polymeric electrolyte, a layer 26 of anodic material applied to the polymeric electrolyte and a layer 28 of metallized expanded or perforated plastic film. See col. 4, lin 21-33. Note Fig. 1. Claim 1 teaches the metal may be copper.

Thus the claims are anticipated.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Satake et al., US 6,096,455.

Satake teaches a current collector for a lithium polymer battery. See col. 1, lin 6-10. The current collector is a copper foil which is punched to form penetrated holes. An active material

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slurry is laminated on both sides of the current collector. See col. 7, lin 27-38 and col. 11, lin 9-27.

Satake further teaches it is conventional to produce the anode and cathode plates by coating a mixed slurry including the active material to both sides of various metal foils (current collectors). A separator is located between the electrode plates for electrically insulating the plates. It is known to form a plurality of holes in the metal foil to prevent the peeling off of active material. The holes may be formed by punching the metal foil. See col. 1, lin 13-64.

Thus the claims are anticipated.

Please note claim 1 does not require the negative collector foil to be without holes. However, the applied references teach and suggest this limitation.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jenkins et al. 5,578,398 teaches it is known to form perforated substrates from a sheet of electrically conductive material wherein the perforations are punched or otherwise introduced into the material. Suitable materials include copper. See col. 1, lin 14-17 and col. 2, lin 34-36.

Gozdz et al. 5,554,459 teaches secondary batteries constructed of layered, polymeric composition electrode and electrolyte elements laminated with electrically-conductive collector


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members, typically metallic foils. The metal foil is typically a copper foil. See col. 1, lin 1-10 & 63-65.

Yanagihara et al. 5,543,250 teaches a metal substrate having a plurality of punched holes. The metal substrate is coated with an active material layer to form an electrode. See col. 2, lin 20-25.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached *Monday-Thursday from 8:00 AM - 6:30 PM*. My supervisor is Gabrielle Brouillette, who can be reached at (703) 308-0756. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax number is (703) 305-3599.

March 7, 2001


GABRIELLE BROUILLETTE
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